

Connecticut Department of Environmental Protection Developing Performance-Based Measures under NEPPS

Connecticut's proposal is twofold: (1) to further development of statistically valid compliance rates by industry sector or facility type, as defined in the Performance Partnership Agreement and; (2) to build problem solving structural capacity within the agency, and then pilot problem-solving in a multi-media fashion.

Compliance Rate Analysis Discussion

The Connecticut Department of Environmental Protection ("Department") has begun to systematically assess compliance rates by industry sector or facility type, as defined in our PPA. This February, in our annual report to the Environment Committee of the Connecticut General Assembly, the Department provided "Compliance Profiles by Industry Sector or Facility Type". While a respectable first attempt, the state's effort to produce statistically valid compliance rates requires significant additional work and expertise that the agency does not currently possess. For example, how does the analysis accurately consider the fact that rates are based on a single inspection event rather than a measure of continuous compliance (or non-compliance)? How does the state accurately reflect the distinction between complaint driven inspections and random inspections? How is non-compliance with the potential to impact public health and the environment differentiated from non-compliance without such potential? The Department would use a portion of the available grant funds to engage an outside consultant with experience in this type of analysis. **The Department expects that no more than \$25,000 of the available funds would be used for compliance rate analysis and that all funds used for this purpose would be expended during the first year of the grant.**

Compliance rate analysis moves the agency one step away from output measures and toward outcome measures by reflecting behavioral changes within specific industrial sectors or facility types within the regulated community at large. Data reflecting the underlying rate of compliance by sector and facility type will allow the Department to make better, more effective use of existing resources. Inspection resources (and the enforcement and assistance resources to follow) can be focused on areas where compliance is lowest and attention is most needed. Conversely, statistically valid compliance rates also allow the Department to reduce investments in areas where a high rate of compliance has been achieved and sustained. Stated differently, if a facility type or industry has demonstrated a high level of compliance over a given period of time, the same level of agency attention may not be warranted, although a responsible presence must remain. When resources are effectively targeted at lower performing industrial sectors or facility types, the expectation is that compliance rates in those areas will rise and environmental harm related to non-compliance will be reduced. The Department will track compliance rates and report them to EPA annually. Finally it may be possible to use compliance rates as a compliance incentive. Industry

and trade groups could be recruited to raise compliance rates within an industrial sector as an incentive to lower inspection frequency.

Building Environmental Outcome-Based Capacity

The Department intends to build outcome-based problem solving capacity within the agency.

Lessons learned as a result of this project will be shared with EPA Region I staff and state counterparts within the region. Relying in part on the Florida DEP model for environmental problem solving (see <http://www.dep.state.fl.us/ospp/eps/EPS%20Guide.pdf>), Connecticut would use the bulk of the available funds to educate and train management and staff in a structured problem solving approach and then commit to a problem solving pilot. Among others, the Department will approach staff at Harvard University's Kennedy School of Government, Richard Chang Associates and problem solving staff at the Florida DEP to provide the necessary training. **Most training costs would be incurred during the first year of the PPA and costs associated with conducting the problem-solving pilot would occur during the second year.**

Environmental Problem Solving ("EPS") is an integrated, **data driven** process used to identify the causes of an environmental problem, considers the options available to solve it, establishes the measures that would indicate whether an intervention is successful, and the resources which can be brought to bear to solve the problem. A problem solving approach will provide the Department with the capacity to identify significant risks, problems, or patterns of non-compliance, to prioritize them, and to design solutions or remedies that eliminate or substantially mitigate those problems. EPS typically involves each of the following elements:

Systematic identification of important hazards, risks, or patterns of noncompliance;

Emphasis on risk assessment and prioritization as a rational and publicly defensible basis for selecting among identifies risks;

A project-based approach, offering the opportunity to design and implement creative, tailor-made solutions for each selected risk;

Using of a broad range of tools (including, but not limited to, enforcement) in fashioning tailor-made responses to specific risks;

Periodic evaluation of the outcomes or impacts of the designed intervention; and

Flexible resource allocation, enabling the agency to open and close projects in response to changing conditions and priorities.

To employ EPS as an operational methodology requires the creation of a supporting organizational infrastructure that, at a minimum, includes apparatus for:

- Nominating problems;
- Assessing and selecting problems to be worked upon;
- Appointing project teams and team leaders;
- Allocating tasks;

- Overseeing and administering projects;
- Recording the progress of problem-solving projects; and
- Reporting the outcomes of such projects.

In applying EPS, the Department will be able to tailor interventions around specific geographic areas and on clearly defined problems. We will be able to measure the success or failure of the chosen strategies and policies and can identify partners to assist us in producing environmental results. **The Department will consult and coordinate with Region I staff as it evaluates potential problems for the EPS pilot. Possibilities include:**

1. Junkyards - environmental noncompliance and pollution associated with junkyard operations have persisted despite previous attempts by the agency to resolve them. A problem solving approach for junkyards might use the following measures to determine the success of the initiative: (i) the water quality of surface waters being impacted by activities at the sites (this may be possible if the pilot selects facilities in a limited geographic area where junkyard activities are known to contaminate water); (ii) the increased quantity of vehicular fluids shipped off-site for disposal or recycling, including but not limited to: used oil, antifreeze, gasoline, diesel, transmission fluid, brake fluid, power steering fluid and gear oil; and (iii) the increased quantity of freon recovered.
2. Improving water quality on a stretch of river not currently meeting Water Quality goals – an initiative similar to (but on a much smaller scale) the Clean Charles 2005 initiative in Boston. Monitoring outcomes could include measurements of dissolved oxygen, temperature, pH, color, turbidity, nutrients, metals, bacteria and ambient toxicity.
3. Underground Storage Tank compliance – Connecticut is a densely populated state with an extensive network of highways and roads. As a result, the State has over 20,000 nonresidential petroleum tank systems subject to state and federal regulation. In December 1998, it was estimated that 26% of the facilities were noncompliant with the December 22, 1998 federal regulations governing such tanks. Leaking underground tanks are a significant source of ground water pollution and a real problem in a state that relies heavily on ground water for drinking purposes. A problem solving approach would focus resources on eliminating non-compliance to the maximum extent possible; thereby reducing pollution associated with leaking underground storage tanks. Performance measures would be both output and outcome based. For example, measures could focus on the number of noncompliant tanks removed or properly closed during the next two years and the nature and extent of groundwater resources protected (based on historical knowledge of the impacts associated with leaks from noncompliant tanks).

Expenditures associated with implementing the EPS pilot could include: (1) development of a project baseline; (2) identifying root causes for non-compliance; (3) development of compliance assistance tools; (4) development of an enforcement strategy to address remaining non-compliance; (5) measurement of the amount of pollution prevented or reduced; and (6) project follow-up and communicating results.

Project Period: Two years
Funding Sought: \$75,000